

**Atomic Force Microscopy**  
Peter Eaton and Paul West

Oxford University Press, 2010  
288 pages, \$99.00  
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This book can be called a practical introduction to atomic force microscopy (AFM). It is outstanding among those written on this subject. I have worked with AFM starting from the year of its invention, and have seen books written quite formally. This book is written by true experts with a deep knowledge of the AFM technique. In addition, the book is written in a good, succinct manner. With only about 200 pages of text, the book covers the main AFM area (as it was in 2010). It is impossible to describe everything in detail within this page limit. I would therefore call this an introduction.

This book can be useful for both beginners and experienced AFMers. The absence of extensive mathematics makes this book somewhat oversimplified. However, this may attract a broader audience of readers. As such, this book can be recommended for undergraduate students and above.

The introduction chapter is followed by a description of the AFM instrumentation, its basic components electronics software, and such. Chapters 2 and 3 describe the basic AFM modes in detail and in a nice logical way. Chapters 4 and 5 describe the procedures of measurements, imaging, processing, and analysis. This is structured as a sort of “super manual.” I wish I had such a useful text when learning this technique. Chapter 6 describes imaging artifacts, which is the Achilles’s heel of AFM. Although the list and description of possible artifacts is quite impressive, it is unrealistic to present a comprehensive description within a book of this size. The last chapter describes several areas of AFM applications. This is the place in which the book could have been expanded considerably. Nevertheless, it is a good and broad sketch of modern applications of the AFM technique.

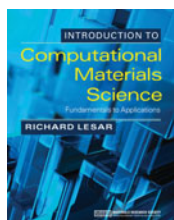
In addition to the chapters, three appendixes describe various methods for AFM calibration as well as available third-party software. These have useful information, in particular, for beginners. The calibration procedures are described closer to a manual style and could have been expanded.

The references are overwhelming with 738 works cited. This is where the book could be improved. Typically the purpose of literature overview is to point readers to further resources by identifying key works. There are many incremental works cited whereas several major and seminal articles are missing.

In conclusion, this is an excellent book which I highly recommend to beginners (just do not be confused by the flurry of cited literature) as well as experts. The beginners will find a great introduction to and detailed practical guide for various AFM techniques. The expert could fill possible gaps in knowledge and gain new ideas.

*Reviewer: Igor Sokolov is a professor at Tufts University, Medford, Mass., USA.*

Two New Books from the Materials Research Society & Cambridge University Press

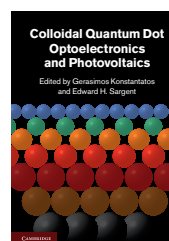


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